

Serial No. 10/552,037  
Office Action dated 8/20/10  
Reply dated 12/20/10

PATENT  
PD030036  
CUSTOMER NO.: 24498

**Amendments to the Claims**

1. (Currently amended) A method for controlling a pick-up for reading three or more data streams from a storage medium, the data streams being distributed to more than one file on said storage medium and being separately ~~intermediately~~ buffered after reading, and after ~~intermediate~~ buffering the data streams being continuously read from the buffers and being used for simultaneous reproduction, wherein said buffers have different individual output data rates and buffer sizes, and wherein the buffer with the highest output data rate being a first buffer relates to a first data stream, the method comprising:
  - ~~detecting individually for the separate buffers that the remaining amount of buffered data is below a threshold;~~
  - ~~upon said detection when in a buffer of the separate buffers a remaining amount of buffered data is below a threshold,~~ generating and scheduling a request for the pick-up to read data from the corresponding data stream for filling the buffer that has a remaining amount of buffered data below the threshold, wherein the request indicates the respective data stream to be read, and wherein for each of said buffers ~~generates~~ an individual average number of requests per time interval (#) is generated that results resulting from its output data rate, its size and said threshold;
  - ~~upon the pick-up serving said request,~~ the pick-up accessing the corresponding data stream and reading data from the indicated accessed data stream; and
  - buffering the read data in the corresponding buffer, wherein the average number amount of requests per time interval data of the ~~buffer that relates to said first data stream is a first number buffered in the first buffer is sufficient for providing continuous buffer output through a time that is required for accessing and reading any one data stream other than the first data stream of the at least three data streams, filling the respective buffer with the read data from said other data stream and accessing and reading the first data stream again, and wherein the amount the average number of requests per time interval of buffered data for each another of said buffers relating to another of said the other data streams is sufficient for~~

Serial No. 10/552,037  
Office Action dated 8/20/10  
Reply dated 12/20/10

PATENT  
PD030036  
CUSTOMER NO.: 24498

providing continuous buffer output through a time that is required for accessing the first data stream, filling and emptying said first buffer a number of times and accessing the respective other data stream again, wherein said number of times of filling the first buffer before the other buffer needs to be refilled is an integer and is multiple of said first number, the integer being at least two.

2. (Cancelled).
3. (Currently amended) Method according to claim 1 [2], wherein the integer is the same for all said other data streams.
4. (Currently amended) Method according to claim 3, wherein the data streams comprise at least a video stream, an audio stream and a subtitle stream with  $f_{\text{video}} = \lambda \cdot f_{\text{audio}} = \lambda \cdot f_{\text{subtitle}}$ .
5. (Currently amended) Method according to claim 1, wherein during a start-up procedure, ~~initialization~~ first said other data streams and then said first data stream are read from the storage medium.
6. (Currently amended) Method according to claim 1, wherein during a start-up procedure, ~~initialization~~ the buffer for the first data stream is filled completely, and the buffers for the other data streams are filled only partially.
7. (Currently amended) Method according to claim 1, wherein during a start-up procedure, ~~initialization~~ the order of reading the data streams other than said first data stream from the storage medium is identical, or reverse, to the order that said other data streams have on the storage medium.
8. (Previously presented) Method according to claim 1, wherein also data streams are read from said storage medium that are not subsequently buffered.

Serial No. 10/552,037  
Office Action dated 8/20/10  
Reply dated 12/20/10

PATENT  
PD030036  
CUSTOMER NO.: 24498

9. (Currently amended) Apparatus for controlling a pick-up for reading three or more data streams from a storage medium, the data streams being distributed to more than one file on said storage medium and being separately ~~intermediately~~ buffered after reading, and after ~~intermediate~~ buffering the data streams being continuously read from the separate buffers and being used for simultaneous reproduction, wherein said buffers have different individual output data rates and buffer sizes, and wherein the buffer with the highest output data rate relates to a first data stream, the apparatus comprising:
- a pick-up for reading the data streams from said storage medium;  
~~— means for detecting individually for the separate buffers that the remaining amount of buffered data is below a threshold;~~
  - means for three or more buffers for buffering each of the three or more data streams separately, wherein the buffer with the highest output data rate being a first buffer relates to a first data stream, and for generating, when a remaining amount of buffered data is below a threshold, a requesting for the pick-up to read data from the corresponding data stream for filling the buffer that has a remaining amount of buffered data below the threshold, wherein the request indicates the data stream to be read, and wherein for each of said buffers an individual the average number of requests per time interval is generated individual for each of said buffers, that results resulting from its output data rate, its size and said threshold, with the average number of requests per time interval of the buffer that relates to a first data stream being a first number, and the average number of requests per time interval of another of said buffers relating to another of said data streams being an integer multiple of said first number, the integer being at least two; and
  - means for a scheduler for scheduling said the generated requests request, wherein upon serving said request before being served by the pick-up accesses the corresponding data stream and reads data from the accessed stream, and  
wherein the size of the first buffer holding data from the first data stream is sufficient for providing continuous output through a time that is required for accessing and reading any one data stream other than the first data stream from the at least three data streams, filling the respective other buffer with

Serial No. 10/552,037  
Office Action dated 8/20/10  
Reply dated 12/20/10

PATENT  
PD030036  
CUSTOMER NO.: 24498

the read data from said other data stream and accessing and reading the first data stream again, and wherein each of the other buffers holding data from each of the other data streams has a size that is sufficient for providing continuous output through a time that is required for accessing the first data stream, filling and emptying the first buffer a number of times and accessing the respective other data stream again, and wherein said number of times of filling the first buffer before the other buffer needs to be refilled is an integer and is at least two.

10. (Currently amended) Apparatus according to claim 9 [[1]], wherein said storage medium is an optical disc and wherein said first data stream is a video data stream and said other data streams comprise audio data and subtitle data.
11. (New) Apparatus according to claim 9, wherein the integer is the same for all said other data streams.
12. (New) Apparatus according to claim 9, wherein, during a start-up first said other data streams and then said first data stream are read from the storage medium.